

#### ABSTRACT OF THE DISCLOSURE

A method of fabricating an image sensor device is disclosed. In the method, a substrate having a plurality of trenches therein is provided. A first anti-reflective layer is formed on the surfaces of the trenches. An insulating layer is filled in the trenches for forming a plurality of shallow trench isolation regions. At least one photo sensitive region is formed within the substrate between neighboring shallow trench isolation regions. A second anti-reflective layer is formed at least covering the photo sensitive region. Because the first anti-reflective layer is formed on the surfaces of the trenches, and the second anti-reflective layer is formed on the photo sensitive region, the sensitivity of the image sensor device is improved.